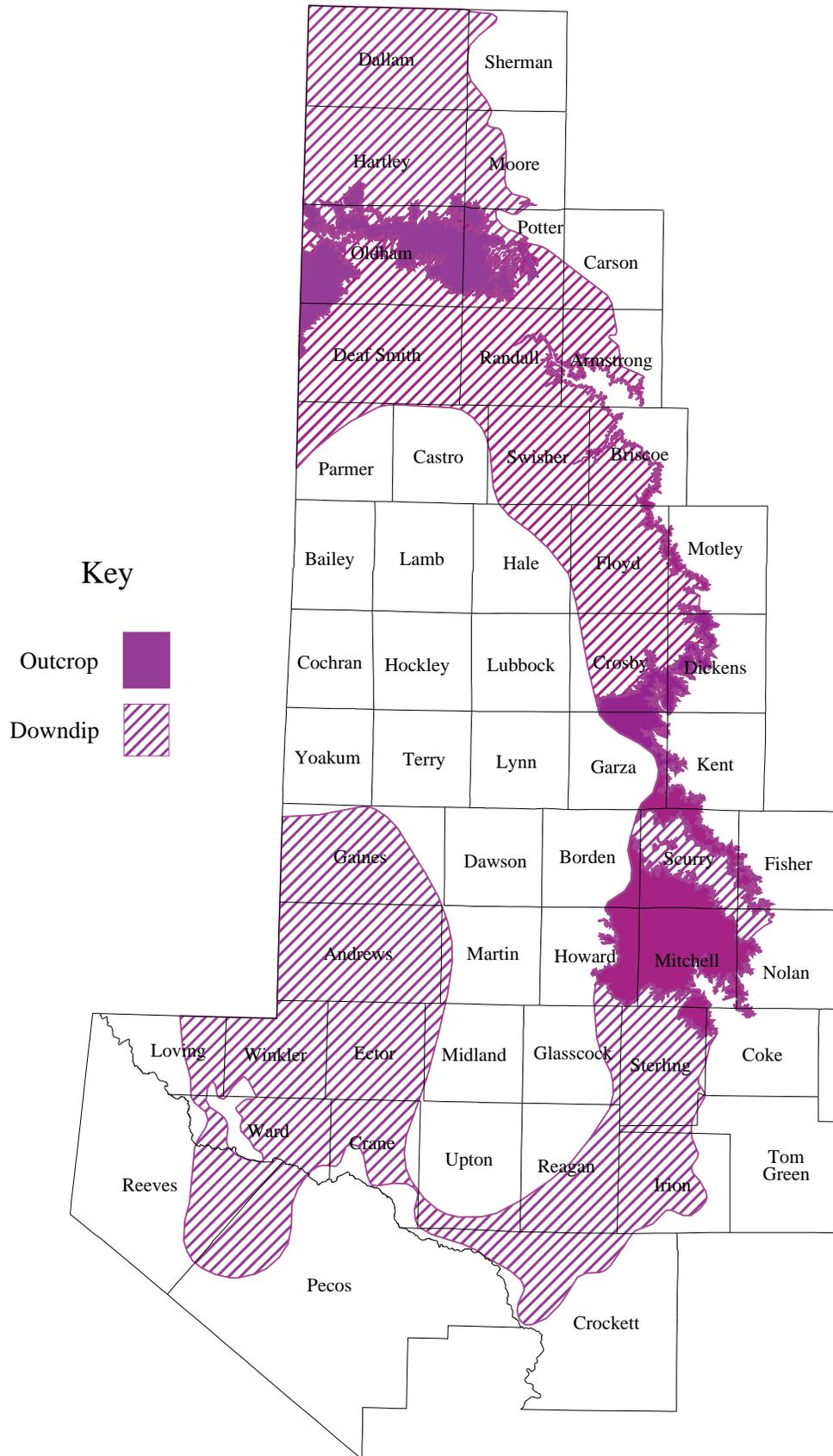


Dockum



Dockum Aquifer

The Dockum Group of Triassic age underlies much of the Ogallala Formation of the High Plains area of Texas and New Mexico, the northern part of the Edwards Plateau, and the eastern part of the Cenozoic Pecos Alluvium. Where exposed east of the High Plains caprock and in the Canadian River Basin, the land surface takes on a reddish color. In the subsurface, the Dockum is commonly referred to as the "red bed." The primary water-bearing zone in the formation, the Santa Rosa, consists of up to 700 feet of sand and conglomerate interbedded with layers of silt and shale.

Ground water from the Dockum aquifer is used for irrigation in the eastern outcrop area of Scurry and Mitchell counties, and for municipal water supply in the central part of the High Plains where marginally acceptable quality conditions prevail. Elsewhere, the aquifer is used extensively for oil field water-flooding operations, particularly in the southern part of the High Plains.

Concentrations of dissolved solids in the ground water range from less than 1,000 mg/l near the eastern outcrop to more than 20,000 mg/l in the deeper parts of the aquifer to the west. Relatively high sodium concentrations pose a salinity hazard for soils, thereby limiting regional long-term use of the water for irrigation. The extent of the aquifer as delineated includes the area in which the Dockum ground water contains less than 5,000 mg/l dissolved solids.

References

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